SDN Mentor Webinar
- SAP BusinessObjects Web Intelligence -

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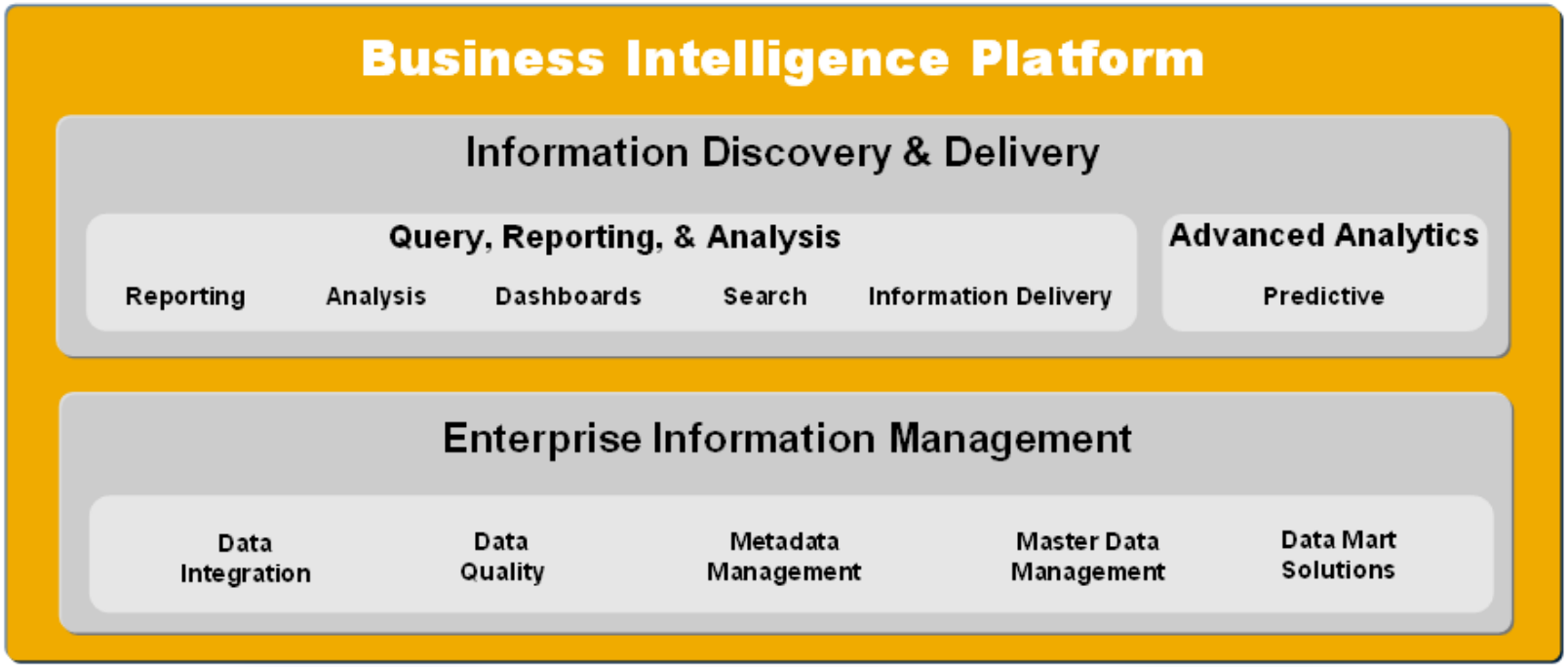
Agenda

1. General overview of Web Intelligence connectivity for SAP BI
2. SAP Meta-data in OLAP Universes
3. SAP Variables in Web Intelligence
4. DEMO

SAP BusinessObjects

BUSINESS OBJECTS XI 3.0
BUSINESS INTELLIGENCE PLATFORM



Business Applications & Structured Data

Unstructured Data

Cloud Data

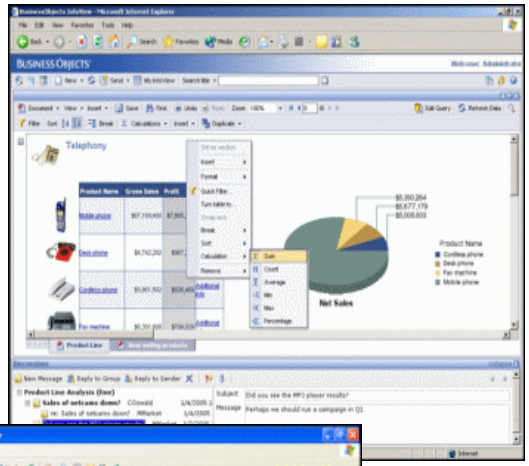
SAP BusinessObjects

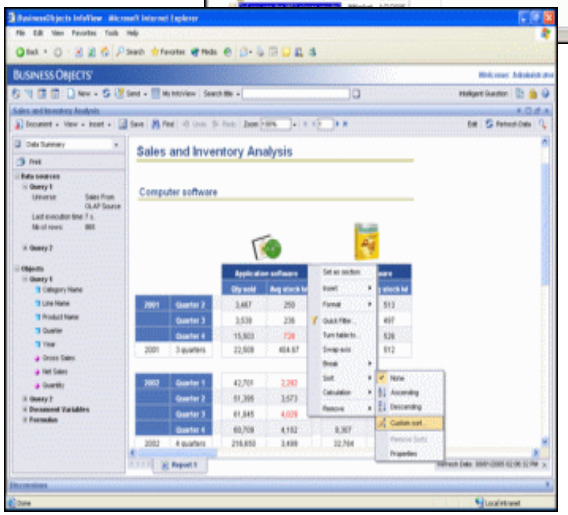
Business Objects Web Intelligence

BusinessObjects Web Intelligence is the leading end user reporting-and-analysis tool.

Where can Web Intelligence add value?

- In the area of ad-hoc reporting
- Easy-to-use interface for end user reporting
- Powerful query features
- Leverage business friendly ‘semantic layer’ to hide complexity





Customer requirements

- Self-service reporting and analysis, autonomy from IT
- Simple user interface, designed for the masses
- Combine data from SAP and non-SAP data in a single report
- Rich feature set

Connectivity to SAP

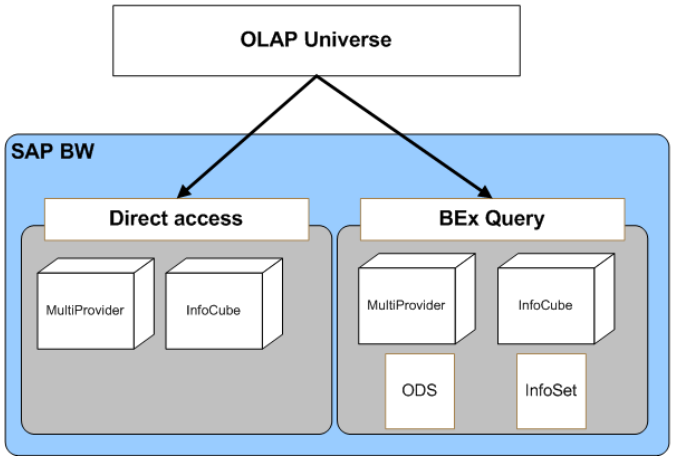
- Sits on top of Business Objects Enterprise Universes
- Universes connect to SAP NetWeaver BI via OLAP BAPI
- Access objects: BEx Queries & SAP BI InfoCubes

Web Intelligence connectivity

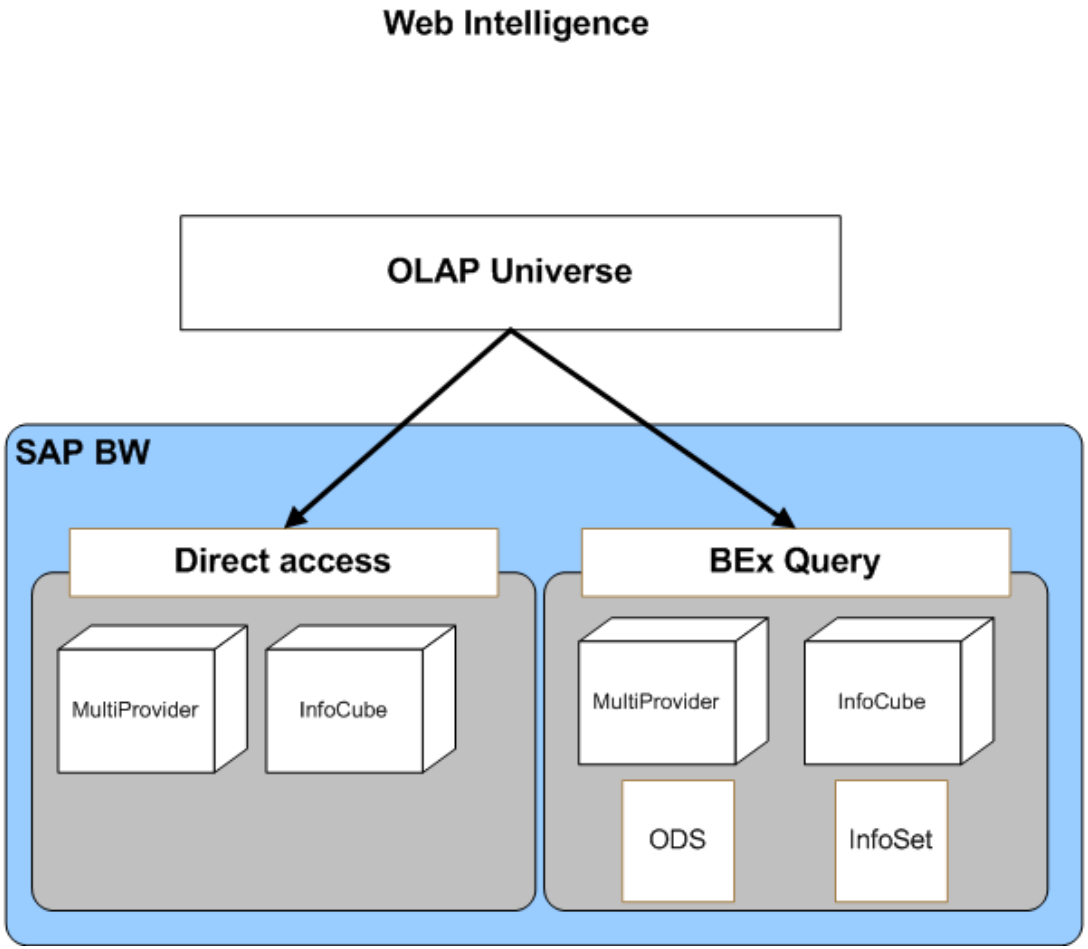
Web Intelligence / OLAP Universes

- Connectivity towards BI queries
  - Queries need to be configured to “Allow external access”
  - Consider Crystal Reports for a direct ODS / DSA access (Direct BAPI access)

- Connectivity towards InfoProvider level
  - Consider the different sets of meta-data exposure
  - Consider BI Authorizations / Authorization variables



Web Intelligence connectivity



Web Intelligence connectivity

BI metadata feature	SAP OLAP BAPI support level
Characteristics (incl. Time and Unit)	InfoCube/BI Query
Hierarchies	InfoCube/BI Query
Basic Key Figures	InfoCube/BI Query
Navigational Attributes	BI Query only
Display Attributes	InfoCube/BI Query
Calculated Key Figures / Formulas	BI Query only
Restricted Key Figures	BI Query only
Custom Structures	BI Query only
Variables	BI Query only

SAP BusinessObjects

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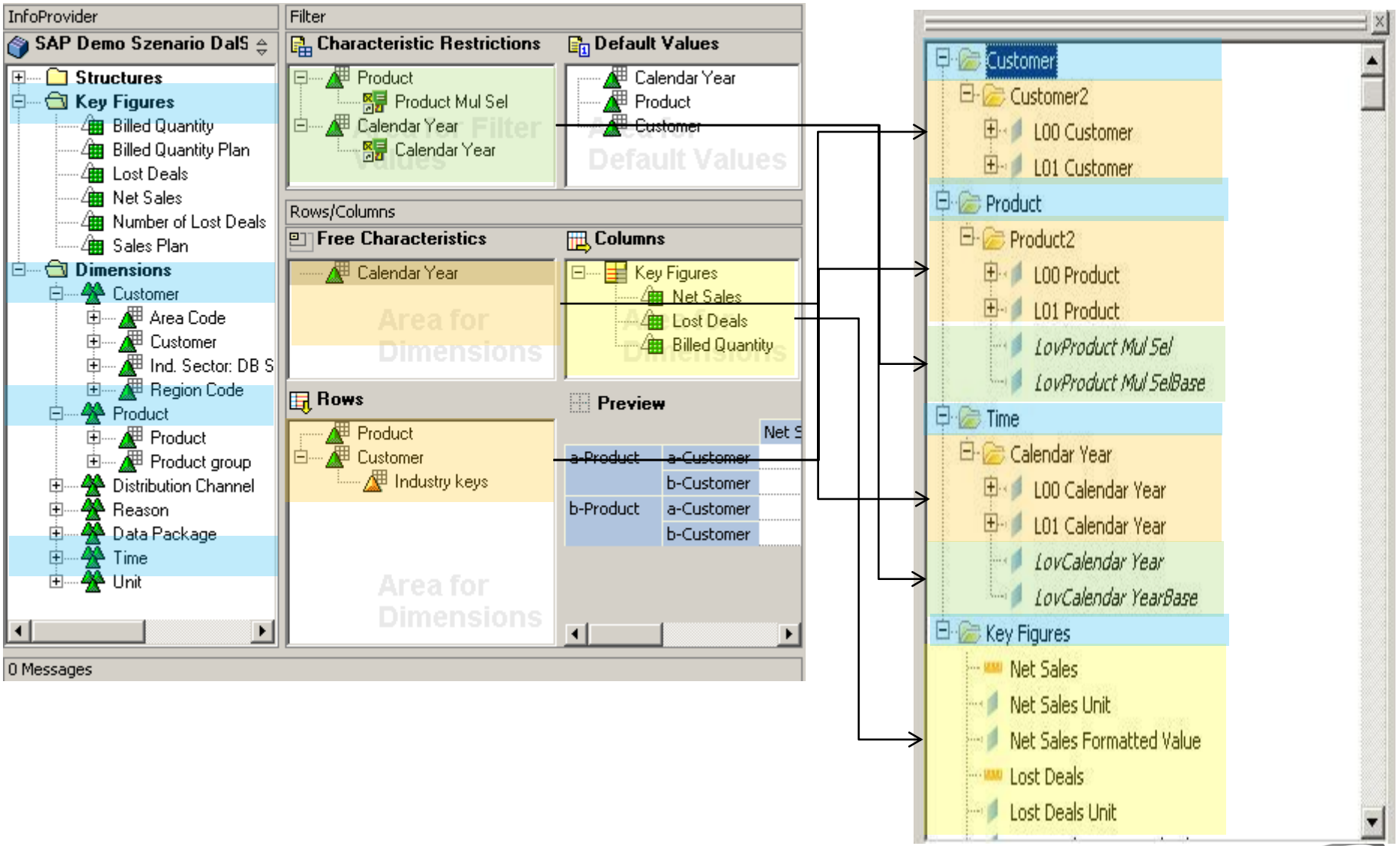
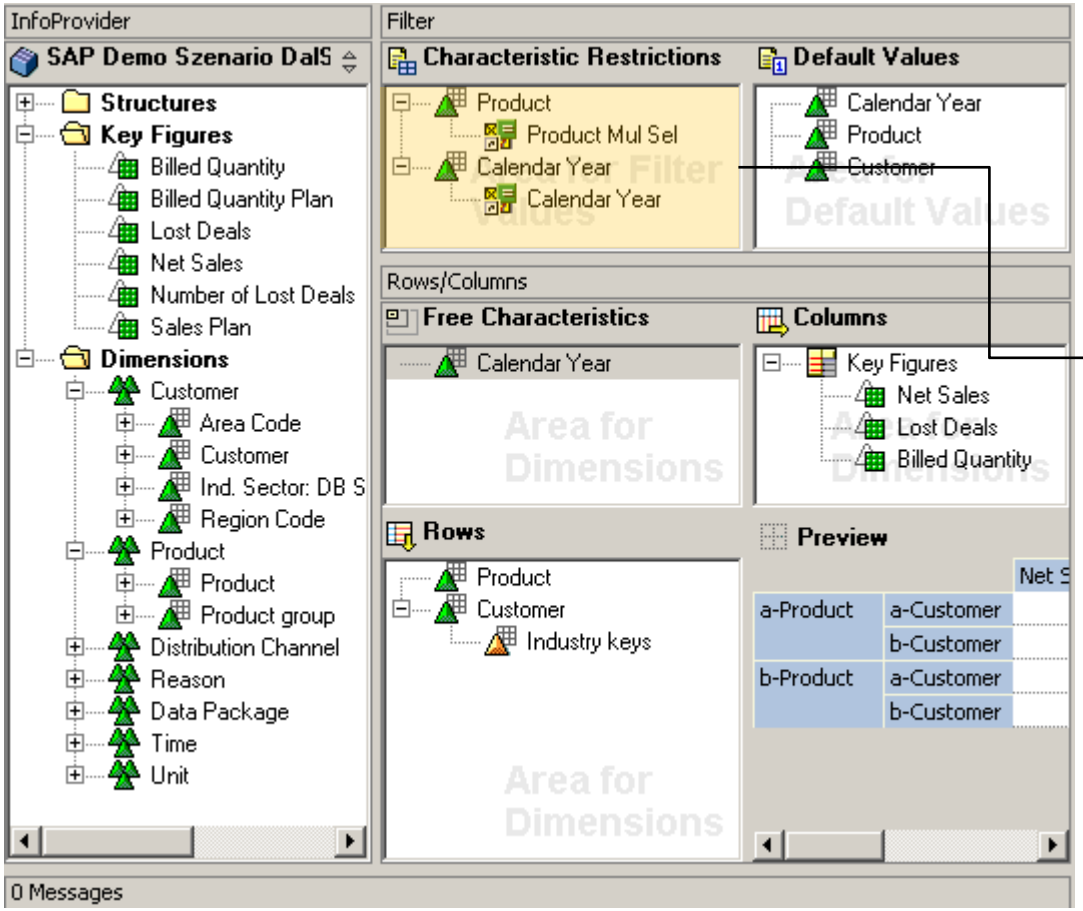
Meta-data mapping in OLAP Universes

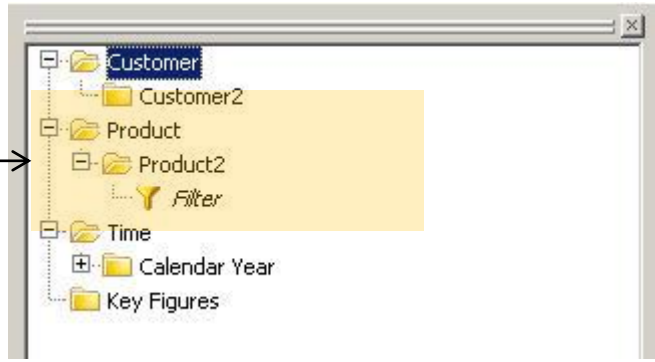
SAP BI element	Universe object
Dimension	Class
Characteristic	Subclass with dimension and detail objects
Characteristic with hierarchy	**BI Query:** Subclass containing dimension and detail objects for each hierarchy level in the currently defined hierarchy **BI InfoProvider:** Subclasses containing dimension and detail objects for each hierarchy level for all hierarchies defined for the characteristic
Structure based on Characteristics (BEx Queries only)	Class with single dimension object for the structure
Navigational attribute	Subclass with dimension and detail objects (identical to characteristic)
Display Attribute	Detail object for the dimension
Key Figure	Measure object in the class for the Key Figure structure with dimension objects for units/currency, numeric value and formatted value (based on User preferences)
Calculated Key Figure (BEx Queries only)	Measure and dimension objects (same as Key Figure)
Restricted Key Figure (BEx Queries only)	Measure and dimension objects (same as Key Figure)
Variables (BEx Queries only)	Pre-defined Filter in the Universe In the class for the dimension to which the variable applies, two dimension objects supporting the list of values, one for caption, one for description.
Key date variable (BEx Queries only)	Universe parameters defining key date variable in the universe

Meta-data mapping in OLAP Universes



Meta-data mapping in OLAP Universes





Meta-data mapping in OLAP Universes

Overall recommendation

- BI Queries are recommended as data sources for generating universes for the following reasons:
  - BI Queries offer a flexible extension to the data modeling environment and require less effort to change than InfoCubes
  - BI Queries offer significant functionality to create customized data sources that meet end-user requirements, such as Calculated & Restricted Key figures and SAP Variables.

- You do **not** need a BI Query for every report and you do **not** need a universe for every BI Query.
  - Focus the implementation strategy on limiting the number of BI Queries and universes that share common elements
  - DO NOT build one query per InfoProvider because elements can add processing time even though you not using them into the Web Intelligence report
  - Build a small set of queries focusing on sharing common elements in a small number of universes

- **Set the property "Use Selection of Structure Members" in transaction RSRT for the query to ensure structure elements are sent to the database for processing**

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SAP Variables and Web Intelligence filter

SAP Variables in Web Intelligence

- Mandatory variables will always load a list of values (try to leverage more optional variables)
- Leverage the **Delegated Search** feature for List of values

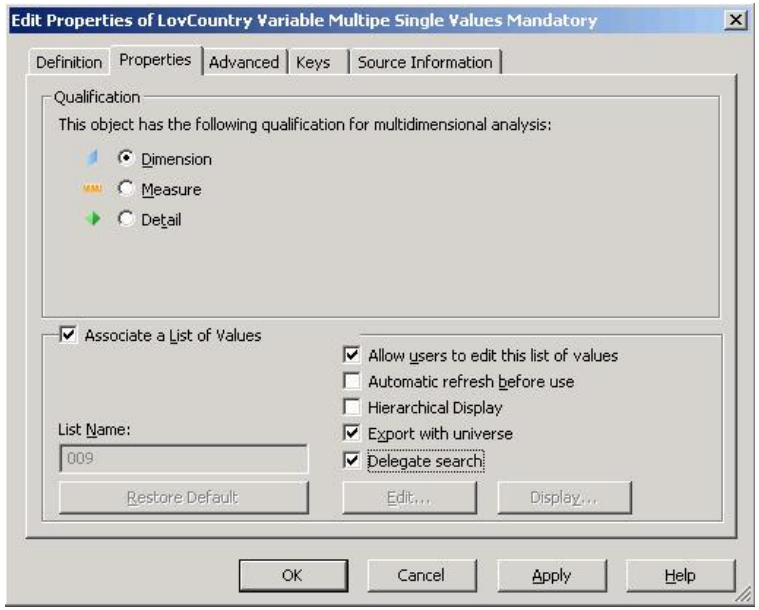
Web Intelligence filters

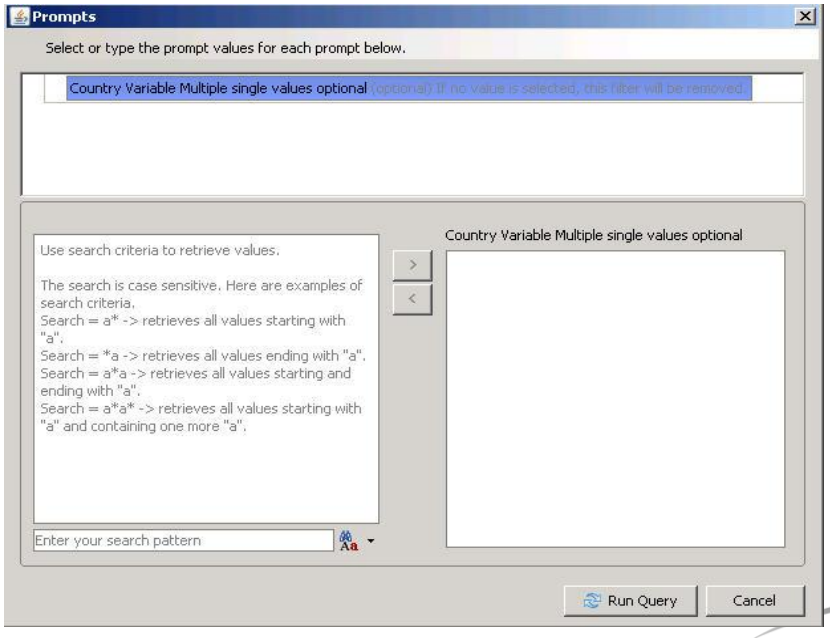
- Prefer the inclusive filter over the exclusive member to increase the performance
- Ensure the reference objects are **indexed** to avoid unnecessary steps to resolve the value to the member unique name
- Ensure the user can only select values from the actual LOV (List of values)

SAP Variables and Web Intelligence filter

Delegated search for List of Values (LOV)

- Navigate to the tab “Properties” in the Universe Designer of the LOV items
- Activate the “Delegate Search”
  - No values will be loaded automatically
  - User is “forced” to leverage search to receive members
  - Search is being delegated to the SAP BI system





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DEMO

OLAP BAPI Optimizations in BW for Improved Business Objects Interoperability via ODA

Improvements

1. Avoid unnecessary sorting
   - Problem:
     - MDX standard imposes results to be sorted
     - However, those sorts are typically ignored or not required by WebI
   - Solution:
     - sorting can be avoided by using a new UNORDER() function in SAP's MDX
     - see note 1230712
   - any MDX client can benefit
2. Leaner memory consumption during flattening
   - optimized flattening algorithm
   - see note 1235608
   - any MDX client can benefit
3. Leaner communication ODA – OLAP BAPI
   - use compressed data exchange via binary XML
   - see note 1241650
   - only BOBJ clients using ODA can benefit

Availability

- SAP NetWeaver BI 7.01 **SP 3**

Thank you!